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ABSTRACT

Subjects in five stress groups were threatened with electric shock while subjects in a sixth group were not. In one of the stress groups subjects were encouraged to misattribute (i.e., project) their feelings from the threat of shock to the experimenter instead of to the shock, while subjects in the remaining stress groups were not encouraged to misattribute threat-produced affects to the experimenter. Physiological and self-report measures indicated that subjects who misattributed their anxiety and nervousness to the experimenter were just as distressed by the veridical source of arousal as were subjects who did not misattribute. The implications of these results for attribution theory and the hypothesized stress-reducing effectiveness of complementary projection were discussed. (Author)

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Effectiveness of Misattribution (Projection) of Arousal in Coping with Stress

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Abstract

Subjects in five stress groups were threatened with electric shock while subjects in a sixth group were not. In one of the stress groups subjects were encouraged to misattribute (i.e., project) their feelings resulting from the threat of shock to the experimenter instead of to the shock, while subjects in the remaining stress groups were not encouraged to misattribute threat-produced affects to the experimenter. Physiological and self-report measures indicated that subjects who misatttributed their anxiety and nervousness to the experimenter were just as distressed by the veridical source of arousal as were subjects who di not misattribute. The implications of these results for attribution theory and the hypothesized stress-reducing effectiveness of complementary projection were discussed.

Paper presented at the meeting of the American Psychological Association, Chicago, September, 1975.

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Two different theoretical approaches have been used to explain changes in emotional behavior that result from an individual's attribution of his arousal to a nonveridical source. The first approach dates back to Freud (1956, orig. publ. 1896) and involves complementary projection (cf. Murray, 1933), the process by which an individual misattributes the complement or cause of his feelings or traits onto another person.[1] The second approach involves attribution theory and is broadly concerned with the processes through which an individual assigns causes to various behaviors or emotions (Kelley, 1973). Though both theoretical systems are concerned with an individual's perception of the causes of behavior, an important distinction can be made: while attribution theory is concerned with the process through which an individual finds a cause, projection theory is more exclusively focused on the process through which an individual finds a stress-reducing cause that is a person. In essence, therefore, complementary projection involves a stress-reducing misattribution about causality.

In spite of the well-formulated theoretical foundation, there is a serious dearth of empirical evidence pertaining to whether the misattribution involved in complementary projection actually reduces stress. The most substantial body of evidence pertaining to a stress-reducing effect from misattribution (though not to another person) comes from studies which suggest that the misattribution of arousal from an aversive source (e.g., electric shock) to a neutral source (e.g., a placebo pill) can reduce stress. For example, Nisbett and Schachter (1966) found that under some conditions subjects tolerated higher levels of shock and reported feeling less pain when they attributed their arousal to a placebo pill rather than to the actual shock. Similarly, Ross, Rodin, and Zimbardo (1969) found that subjects who attributed their arousal to white noise were more likely to risk receiving electric shocks to gain a monetary reward than subjects who attributed

their arousal to the anticipation of the potential shocks. Clearly, these investigations suggest that the misattribution of arousal can reduce stress. However, in considering the results of these studies, it is important to note that (a) the object of the misattribution process was not a person and hence these studies did not directly investigate the misattribution involved in complementary projection, and (b) the conclusion that the misattribution of arousal reduced stress was based solely on indirect (e.g., Ross et al.) or self-report (e.g., Nisbett & Schachter) data. Though suggestive, this body of data is obviously inadequate to answer the question of whether complementary projection is effective in reducing stress.

A second line of evidence more closely parallels the misattribution involved in complementary projection in that the source to which subjects were encouraged to misattribute their arousal was another person. Using threat of shock to induce stress, Bloom and Houston (1975) found that subjects who projected malevolence onto an experimenter did not show any differential decrease in stress as compared to subjects who did not project. Unfortunately, however, certain methodological weaknesses make it difficult to draw conclusions from this study. For example, though subjects in the group encouraged to project saw the experimenter as more malevolent, there was no evidence nor was there any encouragement for them to see the experimenter as <u>the cause</u> of their arousal or stress. There was no evidence, therefore, that subjects actually projected the cause of their distress onto the experimenter. It should also be noted that since subjects never actually were shocked, there was no direct measure of subjects' response to the veridical source of stress, viz., the shocks. The effect of possible misattribution therefore was not tested on the objective source of threat as it was, for instance, in the Nisbett and Schachter study.

From the preceding comments it is clear that (a) conclusions derived from the single study directly investigating the stress-reducing effectiveness of projection are limited, and (b) the findings gleaned from indirect but related studies are only suggestive in nature. This is unfortunate in view of the clinical implications that such a misattribution procedure would have in mediating distressing emotional states and in view of the importance given projection in the theory and assessment of personality. The present experiment was designed to provide a more direct investigation of the nature and stress-reducing quality of the misattribution process defined as complementary projection. In this experiment subjects in five stress groups were threatened with electric shock while subjects in a sixth group were not threatened. Before the threat of shock was mentioned, subjects in one threat group were told that previous subjects had reported that the experimenter had caused them to feel nervous (Fear Attribution condition). Thus subjects in this condition were encouraged to see the experimenter instead of the electric shock as the cause of their distress. Two threat groups were included to control for nonspecific effects of the attribution manipulation. Subjects in one of these groups (Irrelevant-Negative Attribution) were encouraged to project onto the experimenter cause for an affect (viz., being annoyed) that was negative (like being nervous) yet had minimal relevance to the emotions induced by threat of shock, while subjects in another group (Irrelevant-Neutral Attribution) were encouraged to project onto the experimenter cause for a neutral affect (viz., being confused) that was also irrelevant to the emotions induced by threat of shock. Two other threat groups were included as additional comparison groups. Subjects in one group (No Experimenter) were not given the opportunity to project while subjects in another group (No Attribution) were given the opportunity to project but were

not encouraged to make particular attributions. Finally, response to the veridical source of stress, viz., electric shock, was measured by both physiological and self-report indices. In contrast to the procedures in some previous research, then, in this experiment (a) subjects in one condition were encouraged to see the experimenter as the cause of their distress, and (b) physiological as well as self-report measures of response to the veridical stressor were included.

Method

Subjects and Design

Eighty-four female students from introductory psychology classes served as subjects and were randomly assigned in equal numbers to one of the following six conditions: Fear Attribution, Irrelevant-Negative Attribution, Irrelevant-Neutral Attribution, No Attribution, No Experimenter, No Threat. All subjects were run in individual sessions, with each session divided into four periods: base level, attribution and threat manipulation, experimental, and postexperimental.

Procedure

When the subject arrived, a technician introduced himself and explained that the general purpose of the investigation was to find out how various segments of a psychophysiological experiment affect "people's feelings, physiological sensations, and general reactions." The technician then gave the subject a brief tour of the laboratory and introduced her to "Dr. Sharpe" (a confederate), the person who would serve as "the experimenter" for the rest of the study. The technician then took the subject into an adjacent room, seated her at a table, and attached two Stoelting chrome-plated GSR electrodes to the thumb and first finger of her non-

dominant hand.

Base level. After attaching the electrodes, the technician asked the subject to sit quietly and fill out a questionnaire not related to the present study. While she filled out the questionnaire, her basal skin resistance was recorded from the adjoining room on a Narco Bio-Systems polygraph (Physiograph Six). After completing the questionnaire, the technician told the subject that the instructions for the rest of the experiment would be given via tape recording, and that since he would have to operate the tape recorder and monitor the polygraph from the adjoining room, Dr. Sharpe would serve as the experimenter for the remainder of the study. The technician then left the room and did not return until the postexperimental period.

Attribution and threat manipulation. The various attribution manipulations were then introduced via tape recording and differentiated the various conditions in terms of the affects which subjects were led to believe the experimenter, Dr. Sharpe, had caused subjects in previous experiments to feel.

For subjects in the Fear Attribution, Irrelevant-Negative Attribution, and Irrelevant-Neutral Attribution groups, the instructions were as follows:

On the basis of data collected from previous studies, we have found that most subjects respond in a similar fashion to our psychophysiological experiments. The overwhelming majority of people in our studies have reported feeling nervous (or "annoyed" or "confused" for the Fear, Irrelevant-Negative, and Irrelevant-Neutral Attribution conditions, respectively) during the main portion of our experiments. Moreover, our data strongly suggest that Dr. Sharpe...is the primary cause of people feeling nervous (or "annoyed" or "confused"). Subjects in each of these experimental groups were then informed that the primary

purpose of the experiment was to further investigate these reactions to the experimenter in order to determine whether "the experimenter plays a role in subjects' reactions to our psychophysiological experiments."

Subjects in the No Attribution, No Experimenter, and No Threat groups, in contrast, received no information concerning how previous subjects viewed the experimenter, but were simply reminded that the purpose of the experiment was to find out how certain factors in the "experimental procedure affect people's mood, physiological sensations, and general reactions."

After the attribution manipulations were completed, the threat manipulation was introduced. Each subject was first informed that during the next part of the experiment she would be working on a paper and pencil task, and that the experimenter would soon enter and provide her with the materials for this task. In the No Threat condition, the experimenter than entered the room. In the five threat conditions, the subjects were further informed that at some randomly determined time during the experimental period they would receive a "negative reinforcement" which would be an "electric shock." In order to maximize the likelihood that subjects would attribute the arousal caused by threat of shock to the experimenter, the entrance of the experimenter into the subject's room was paired with the words "electric shock." Although the experimenter knew whether the subject was in a threat or nonthreat group, he was unaware of the nature of the attribution manipulation to which the subject had been exposed.

Immediately after entering the room the experimenter presented the subject with a Consent Form which asked her to sign her name if she were willing to continue with the experiment. (Three subjects elected not to continue and were

dropped from the experiment and later replaced). After the Consent Form was signed, the experimenter attached shock electrodes 5 cm. in diameter to the fourth and fifth fingers of the nondominant hand of subjects in the five threat groups. The experimenter then provided each subject with the materials she would need during the next part of the experiment. In all conditions except the No Experimenter condition he then sat in a chair directly across from the subject; in the No Experimenter condition he left the room and did not return during the remainder of the experiment. While the experimenter was with the subject he acted as neutral as possible, that is, for example, he was neither warm nor hostile, and refrained from verbally interacting with the subject.

Experimental. After the attribution and threat manipulations were completed, the tape recorded instructions briefly described the procedures for the remaining portion of the experiment. Specifically, subjects were told that there would be an experimental period demarcated by buzzers, and that during this period they would be completing a paper and pencil task. Subjects in the five threat groups were also reminded that at some randomly determined time during the experimental period they would receive a "negative reinforcement." A buzzer then sounded, indicating the beginning of the experimental period. In the five experimenter-present conditions, the experimenter continued to sit across from the subject, ostensibly taking notes on her behavior. Ninety seconds into the experimental period the subject was interrupted by taped instructions which asked her to fill out another short questionnaire unrelated to the present study. Subjects in the five experimenter-present conditions were asked to fill out two additional forms. The first asked the subject to indicate on 10-point rating scales the extent to which the experimenter made her feel (a) anxious and (b) nervous. The second form

consisted of half of the adjectives from the Hostility Adjective Check List (Zuckerman, Lubin, Vogel, & Valerius, 1964) and asked the subject to check those adjectives which best described the experimenter. These latter two forms were included to provide subjective measures of the subject's perceptions of the experimenter and the degree to which she attributed the cause of feeling afraid to him. The purpose of these forms was to provide a check on the fear-attribution manipulation. After the subject indicated that she had completed the forms, she was instructed to resume working on the verbal task. Forty seconds later subjects in the threat groups received a low voltage shock (.30 milliamperes delivered for .10 second). Ten seconds after the shock (50 seconds after the previous taped instructions for nonthreat subjects), the tape signaled the end of the experimental period.

Postexperimental. Immediately after the experimental period was completed, the taped instructions asked each subject in the five threat groups to fill out a 10-point rating scale asking her how unpleasant the shock had been. After the subject completed this scale--or immediately after the end of the experimental period for subjects in the No Threat group--the technician entered the room, removed the electrodes, thoroughly debriefed the subject, exhorted her not to discuss the study with other students, and dismissed her.

Results and Discussion

Effectiveness of Attribution Manipulation

Before assessing the effect of misattributing the source of fear, it was necessary to determine if the fear attribution manipulation had been successful. If the manipulation had been successful, one would expect that subjects in the

Fear-Attribution condition would be more likely to attribute the cause for their being anxious and nervous to the experimenter than would subjects in other conditions and also that subjects in the Fear-Attribution condition would perceive the experimenter as being more fear-inducing, namely hostile, than would subjects in the other conditions.

To evaluate this, simple one-way (5 conditions in which the experimenter was present) analyses of variance were performed (a) on the two items asking how anxious and how nervous the subject believed the experimenter had made her feel and (b) on the Hostility Adjective Check List items asking the subject how hostile she perceived the experimenter to be. The analyses revealed differences that were significant or approached significance for all three scores, Fs (all 4,65) = 3.86, 3.43, and 2.31, $p < .005$, $< .01$, and $< .07$, respectively. Following the analyses of variance, Duncan multiple range tests were performed and revealed that subjects in the Fear Attribution condition (a) rated the experimenter as having made them significantly more nervous ($p < .05$) than subjects in any other condition, (b) rated the experimenter as having made them significantly more anxious ($p < .05$) than subjects in any other condition except the Irrelevant-Negative Attribution condition, and (c) rated the experimenter as being significantly more hostile ($p < .05$) than subjects in any other condition except the Irrelevant-Negative Attribution condition. There were no significant differences between the other four conditions in any of these analyses. Thus the fear attribution manipulation seemed to have been successful.

Effect of Fear Attribution on Psychophysiological Response to Shock

It was expected that Fear Attribution subjects would manifest less physiological arousal in response to the veridical source of fear, namely the shock, and

would rate the shock as less unpleasant than subjects either in the conditions that had not been encouraged to misattribute the source of fear or in the group for which misattribution was not possible (No Experimenter).

Physiological response to shock. There were three segments in the experiment during which skin resistance was recorded: (a) the base level which was the last 30 seconds of the base level period during which the subject responded to the questionnaire, (b) a thirty second segment during the experimental period just prior to the subject receiving the shock (or at the corresponding time for nonthreat subjects), and (c) the ten seconds after the shock was administered (or at the corresponding time for nonthreat subjects). A mean basal skin resistance was derived for the base level segment and for the segment prior to receiving the shock, and in the ten seconds after the shock the maximum change in skin resistance was derived by a procedure recommended by Opton, Rankin, and Lazarus (1966). In order to rule out the possible influence of initial levels on the magnitude of response to shock (i.e., the "law of initial values;" Lacey, 1956; Wilder, 1962), a base-free measure of change is desirable (Benjamin, 1967; Tucker, Damarin, & Messick, 1966). Therefore "residualized" postshock scores (cf. Cronbach & Furby, 1970) were calculated for the skin resistance scores obtained after the shock. The residualized scores consisted of the difference between the obtained post-shock score and that predicted by linear regression from the respective base level score and the score for the segment during the experimental period just prior to the shock. (The preshock segment values were included in deriving the residualized scores to rule out the possible additional influence of shock anticipation on the responses given during the postshock segment). Next a simple (six conditions)

analysis of variance was performed on the residualized skin resistance data and revealed significant differences between the means, F (5,78) = 2.55, $p < .05$. Subsequent analyses indicated that the shock had a significant effect on subjects' skin resistance. Specifically, skin resistance was significantly lower during the postshock segment (indicating more arousal) for the subjects who received the shock as compared to subjects who did not receive the shock, F (1,78) = 9.42, $p < .01$. Duncan multiple range tests, however, indicated no significant differences between threat groups. Thus neither the Fear Attribution condition nor any of the other conditions had a significant effect on subjects' physiological response to the veridical source of fear. This finding is contrary to our predictions and those stemming from previous research and indicate that the misattribution was not effective in reducing physiological arousal.

Subjective response to shock. A simple (five threat conditions) analysis of variance was performed on subjects' ratings of the unpleasantness of the shock and revealed no significant difference between the means, F (4,65) = .99, ns. Duncan multiple range tests also applied to the means corroborated the lack of significant differences. These results suggest that the misattribution of arousal evidenced by Fear Attribution subjects was not effective in reducing the aversiveness of the veridical source of arousal.

Conclusions and Implications

The most important finding of the present experiment is that misattribution of arousal did not lead to a reduction in distress toward the veridical source of arousal. Specifically, it was found that subjects who attributed their anxiety and nervousness to the experimenter were just as distressed by the veridical source of arousal as were subjects who did not misattribute. This finding casts serious

doubt on the expectation that complementary projection, or the misattribution of the source of arousal to another person, is an effective strategy for reducing stress.

It should be noted that the present experiment differs from previous research in two important ways. First, this is the only experiment which has employed physiological indices of subjects' response to the veridical source of arousal. This is an important addition to the extant research because physiological measures cannot be faked as can self-report indices (cf. Houston & Holmes, 1975). This removes the possibility that the present results accrued from demand characteristics and therefore did not represent valid responses. Second, the source to which subjects in the present experiment misattributed was another person rather than something inanimate. It is likely that the latter difference had an important effect on the outcome of the study. Specifically, the experimenter probably was seen by the subjects in the present experiment as an emotionally evocative source whereas the targets of misattribution used in previous research (e.g., a pill and white noise) were seen as nonemotional sources. In the present experiment, therefore, the total situation may have been just as emotionally arousing for the misattribution subjects as for the other subjects, the only difference being what specific source caused the arousal. On the other hand, attributing arousal to a neutral source may be a means of helping the subject to redefine the total situation as less emotionally negative. Stated differently, subjects may be relieved to find out that their arousal is caused by an emotionally neutral pill instead of a shock but feel no less distressed to find out that their arousal is caused by another person instead of a shock. If this hypothesis were accurate, it would follow that the stress-reducing effect of misattribution is limited to situations in

which an indivudal can misattribute his arousal to an emotionally neutral source, perhaps thereby enabling him to redefine the situation. Such a finding would have important theoretical and clinical implications and would explain why complementary projection is not effective in reducing stress responses to the veridical source of threat.

If complementary projection does not reduce psychophysiological responses to the veridical source of stress, why do people employ it? What is its purpose? Mahl (1971, p. 178) provides an interesting possibility when he says that such projection acts as a "barricade" against attending to discomforting thoughts, feelings, and action tendencies. In other words, complementary projection may be a strategy which enables an individual to cognitively avoid the veridical source of stress. Such a strategy would have attractiveness as a coping measure if the veridical source were more "aversive" in some respect than the source to which the stress becomes misattributed. For instance, the classic example of an individual projecting malevolence onto others because of his own anxiety concerning homosexual feelings may be interpreted in terms of the person's diverting his attention away from a serious threat to self-esteem (i.e., feelings of homosexuality) to the less threatening idea that people do not like him. It should be noted that (a) such a strategy does not reduce the aversiveness of the veridical stressor (e.g., feelings of homosexuality) but instead allows an individual to cognitively avoid the stressor by attributing the cause of his feelings elsewhere, and (b) the person projecting may still appear to be anxious and stressed by the situation he finds himself in. This hypothesized function of complementary projection awaits further exploration.

References

Benjamin, L. S. Facts and artifacts in using analysis of covariance to "undo" the law of initial values. Psychophysiology, 1967, 4, 187-206.

Bloom, L. J., & Houston, B. K. The defensive function of complementary projection. Journal of Clinical Psychology, 1975, 31, 525-529.

Cronbach, L. J., & Furby, L. How we should measure change--Or should we? Psychological Bulletin, 1970, 74, 68-80.

Freud, S. Psychoanalytic notes upon an autobiographical account of a case of paranoia. In Collected papers of Sigmund Freud. (Vol. 3). London: Hogarth Press, 1956.

Kelley, H. H. The process of causal attribution. American Psychologist, 1973, 28, 107-128.

Lacey, J. I. The evaluation of autonomic responses: Toward a general solution. Annals of the New York Academy of Science, 1956, 67, 123-164.

Mahl, G. F. Psychological conflict and defense. New York: Harcourt Brace Jovanovich, Inc., 1971.

Murray, H. A. The effect of fear upon estimates of the maliciousness of other personalities. Journal of Social Psychology, 1933, 4, 310-339.

Nisbett, R. E., & Schachter, S.. Cognitive manipulation of pain. Journal of Experimental Social Psychology, 1966, 2, 227-236.

Opton, E., Jr., Rankin, N. O., & Lazarus, R. S. A simplified method of heart rate measurement. Psychophysiology, 1966, 2, 87-97.

Ross, L., Rodin, J., & Zimbardo, P. Toward an attribution therapy: The reduction of fear through induced cognitive-emotional misattribution. Journal of Personality and Social Psychology, 1969, 12, 279-288.

Tucker, L. R., Damarin, F., & Messick, S. J. A base-free measure of change. Psychometrika, 1966, 31, 457-473.

Wilder, J. Basimetric approach (law of initial value) to biological rhythms. Annals of the New York Academy of Science, 1962, 98, 1211-1220.

Zuckerman, M., Lubin, E., Vogel, L., & Valerius, E. Measurement of experimentally induced affects. Journal of Consulting Psychology, 1964, 28, 418-425.

Footnotes

[1] This form of projection is distinguished from supplementary projection in which an individual projects his <u>own</u> feelings or traits onto another person.